

REMARKS

This responds to the Final Office Action mailed on July 13, 2005. Reconsideration is respectfully requested.

Claims 1 – 6, 8, 10 – 13, 15 – 19, 22 – 24, 26 – 27 and 30 – 33 are amended, no claims are canceled, and no claims are added; as a result, claims 1 – 8 and 10 – 33 remain pending in this application.

§103 Rejection of the Claims

Claims 1, 3, 10, 11, 16, 19, 30 and 32 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Yeh (U.S. 6,690,929) in view of Olofsson et al. (U.S. 6,647,265) or Immonen et al. (U.S. 2002/0132611).

Claims 2, 3, 12, 17, 18, 21, 31 and 32 were also rejected under 35 U.S.C. § 103(a) as being unpatentable over Yeh in view of Olofsson et al. or Immonen et al. and further in view of Souissi et al. (U.S. 6,556,817).

Claim 4 was also rejected under 35 U.S.C. § 103(a) as being unpatentable over Yeh in view of Olofsson et al. or Immonen et al. and further in view of Johnson et al. (U.S. 5,606,602).

Claim 5 was also rejected under 35 U.S.C. § 103(a) as being unpatentable over Yeh in view of Olofsson et al. or Immonen et al. and further in view of Preston (U.S. 2002/0155823).

Claims 6-8, 20 and 33 were also rejected under 35 U.S.C. § 103(a) as being unpatentable over Yeh in view of Olofsson et al. or Immonen et al. and further in view of Haumont (U.S. 2003/0027554).

Claims 13-15 were also rejected under 35 U.S.C. § 103(a) as being unpatentable over Yeh in view of Olofsson et al. or Immonen et al. and further in view of Zhu et al. (H2051).

Applicants' claim 1, for example, is directed to selecting a communication network based on quality of service level and a quantity of information to be communicated. In Applicants' claim 1, a mobile unit interrogates one or more communication networks to determine the available quality of service levels and cost information. The mobile unit determines the cost estimates for a communication session and the cost estimates for the available quality of service levels are presented to the user. The user may select the network based on the cost estimate, and

may initiate the session. Applicants submit that these elements of Applicants' claim 1 are not taught by the cited art, either separately or in combination.

Yeh is directed to dynamic billing rates in which the cost of service is adjusted during a call as the network's resources change. In Yeh, a service provider makes an offer to a mobile unit for a particular billing rate (see abstract, column 4 lines 29 – 42). The billing rate is based on the cell loading (how heavily a cell is being used) (see column 4, lines 15 – 27). The service is offered at a particular QOS level (see column 5, lines 50 – 55). In Yeh, the user of the mobile unit can either accept or reject the offer.

In Yeh, the mobile service center (MSC) includes a negotiation module that determines the cell loading of the various cells, determines the link quality, and determines what price to offer the mobile unit. In Yeh, the mobile unit does not interrogate one or more communication networks to determine the available quality of service levels and cost information (as recited in Applicants' claim 1). Cost information is simply presented to the mobile unit. Applicants' claim 1 allows a user to select between different networks based on the cost and quality of service levels. Yeh's dynamic pricing is performed within a *single network* by the same service provider.

In Yeh, the mobile unit does not determine a cost estimate for a communication session (as recited in Applicants' claim 1). In Yeh, the mobile unit must either accept or reject cost estimate provided by the service provider (column 5, lines 55 – 57). In Applicants' claim 1, the mobile unit can by itself determine the cost estimate for a communication session based on the quantity of information to be communicated. This is not possible in Yeh, because in Yeh, the network does not know the quantity of information that a mobile unit wishes to communicate. In Yeh, only a fixed time interval can be negotiated (see Yeh column 5, lines 4 - 11).

As can be seen, in Yeh, a mobile unit has very little choice. It can either accept or reject an offer from the system. In Applicants' claim 1, the mobile unit can choose a quality of service level and can choose between the one or more communication networks based on the price and quantity of information. This is not possible in Yeh. Applicants find no teaching, suggestion or motivation in Yeh of providing a user with cost estimates for various quality of service levels for a communication session, and the selection of one of the networks by the user based on the cost estimate.

Furthermore, and according to the Examiner, Yeh fails to teach that quality of service includes data rate, error rate, and packet priority, and is based on the information content class (see Office Action page 2 last paragraph). Immonen has been cited to show that a user can request communications with QOS parameters including bit rate, class of information, BER and priority. Olofsson has been cited to show that QOS parameters can be used in determining pricing. Applicants respectfully disagree with this interpretation of Olofsson and submit that Olofsson does not teach, suggest or motivate that QOS parameters are used to determine pricing.

Olofsson refers to a ‘cost’ the user is willing to pay for a radio-access bearer (RAB). The cost is not the price, but is a measure of the network resources required to provide a user with the requested data rate (see column 7, lines 56, through column 8, line 8). Olofsson defines “the cost” as offered priority (see column 7, line 67), and the cost is “expressed in terms of priority” (see column 7, line 65). As Olofsson further states, the cost “reflects a level of importance assigned to a request” (see column 8, line 1). As can be seen, the Olofsson’s use of the term cost relates to the effect on network resources for a particular QOS communication, not the price (e.g., in terms of money) of a communication session.

This concept that cost is not an amount of money is further emphasized in Olofsson where Olofsson states that “priority information that may be used to classify the importance of a bearer request can be seen as the price the requesting entity is willing to pay for the bearer”, and that “priority should be interpreted as the cost of the offered bearer” (see column 4, lines 45 – 51).

Note that if the use of cost in Olofsson were to be interpreted as an amount of money, it would be limited to priority information. In Applicants’ claim 1, a cost estimate of the communication session is based on a quality of service level and a quantity of information to be communicated. The quality of service level includes data rate information, error rate information and packet priority information and is based on an information content class. In Applicants’ claim 1, the cost estimate is not limited to priority.

Immonen, on the other hand, does not use cost of price as a factor. Immonen discloses that a user can request a communication session with certain QOS parameters, but the user does not know the cost of the session in advance and cannot make a selection between various networks and various QOS levels based on the cost.

In view of the above, Applicants submit that the combination of Yeh, Immonen, and Olofsson does not result in Applicants' claimed invention as recited in claim 1 and that claim 1 is therefore believed to be allowable. In particular, the combination of the cited references fail to teach, suggest or motivate the ability of a user of a wireless device to select between communication networks based on up-front cost estimates for a communication session for different quality of service levels.

Claim 6, as amended, further distinguishes over the cited references by reciting that user credit availability information is compared with the cost estimates for the communication session, and that the communication session is initiated when the cost estimate for the selected communication network is not greater than a predetermined percentage of the user credit availability information.

Claim 7 further distinguishes over the cited references by reciting that the user credit availability information is stored in a smart card readable by the wireless communication device.

Claim 10, as amended, further distinguishes over cited references by reciting that the content class is selected from one of a plurality of information content classes from a group including a conversational content class, a streaming content class, an interactive content class and a background content class. Claim 10 further recites that the quality of service level is based on the selected information content class.

In view of the above, Applicants submit that claim 1 is allowable over cited references. Applicants' other independent claims 16, 19, 22 and 30 have similar limitations and are also believed to be allowable. Dependent claims 2 – 8, 10 – 15, 17 – 19, 20 – 21, 23 – 29 and 31 – 33 are also believed to be allowable at least because of their dependency on their respective independent claim in addition to the discussion above.

Claim 1 was also rejected under 35 U.S.C. § 103(a) as being unpatentable over Lindell (U.S. 2002/0039892) in view of Olofsson et al. or Immonen et al. As discussed above, Applicants' claim 1 is directed to selecting a communication network based on quality of service level and a quantity of information to be communicated. In Applicants' claim 1, a mobile unit interrogates one or more communication networks to determine the available quality of service levels and cost information. The mobile unit determines a cost estimate for a communication

session, selects the network based on the cost estimate, and initiates the session. Claim 1 also recites that the cost estimates are presented to the user for selection of one of the networks. Applicants submit that these elements of Applicants' claim 1 are not taught by the cited art, either separately or in combination.

In Lindell, a mobile station *automatically selects* from more than one access networks based on user preferences. In Lindell, the user preferences may include the automatic selection of an access network based on a lowest cost (see Lindell claim 7, for example), however in Lindell, the user does not have the opportunity to choose between available networks based on cost and quality of service information, as recited in claim 1. As recited in Applicants' claim 1, as amended, the user is presented with the cost estimates and quality of service level information for the communication session, and the user can select one of the networks based on the cost estimates. This is not the case in Lindell wherein user preferences automatically select an access network.

In Applicants' claim 1, the mobile unit can by itself determine the cost estimate for a communication session based on the quantity of information to be communicated. This is not possible in Lindell, because in Lindell, the quantity of information that a mobile unit wishes to communicate is not known, therefore a cost estimate of a session cannot be estimated.

According to the Examiner, Lindell fails to teach the claimed quality of service parameters. Applicants agree with this and further submit that neither Yeh, Immonen, nor Olofsson, either separately or in combination, teach the claimed quality of service parameters that include data rate, error rate, and packet priority. Furthermore, Applicants submit that neither Yeh, Immonen, nor Olofsson, either separately or in combination, teach that the quality of service level is further based on the information content class, as recited in Applicants' claim 1.

As discussed above, Olofsson's use of cost is restricted to a measure of network resources, not money. As also discussed above, Immonen fails to disclose cost or price as a factor. Accordingly, combining Lindell with Olofsson and/or Immonen can not result in Applicants' claimed invention as recited in claim 1. In view of the above, Applicants submit that claim 1 is allowable over cited references.

Claims 22-24 and 28-29 were also rejected under 35 U.S.C. § 103(a) as being unpatentable over Souissi et al. in view of Olofsson et al. or Immonen et al.

Claim 25 was also rejected under 35 U.S.C. § 103(a) as being unpatentable over Souissi et al. in view of Olofsson et al. or Immonen et al. and further in view of Johnson et al.

Claims 26-28 were also rejected under 35 U.S.C. § 103(a) as being unpatentable over Souissi et al. in view of Olofsson et al. or Immonen et al. and further in view of Haumont.

Claim 22 is directed to a wireless communication device that includes a processor to determine cost estimates of a communication session for various quality of service levels and based on a quantity of information to be communicated. The quality of service levels comprise data rate information, error rate information and packet priority information and based on an information content class. The wireless communication device also includes a transceiver to interrogate communication networks to determine available quality of service levels and cost of service information. The transceiver also initiates the communication session with a selected one of the networks when the cost estimate is accepted. The wireless communication device also includes a display to present the cost estimates for the quality of service levels to the user for used by the user in selection of one of the networks, and an input element to accept a selection of one of the networks from the user based on the presented cost estimates.

Applicants submit that the elements of claim 22, as amended, is not taught of suggested by the combination of Souissi, Olofsson, Immonen, Haumont and/or Johnson.

Souissi, on the other hand, is directed to communicating based on the varying time incremental costs of communication within a single network. In Souissi, a user cannot select between different networks for different quality of service levels based on cost estimates. Souissi is further not concerned with quality of service levels for an information content class, as recited in Applicants' amended claim 22. Souissi is only concerned with only one type of content - telephony communications (e.g., over the cellular or wireless telephone network) and does not state anywhere that such networks provide the flexibility of varying a quality of service level (e.g., data rate information, error rate information and packet priority information). Therefore, combining Souissi with other references cannot result in Applicants' invention recited in claims 22 - 29.

Applicants' claims 22 - 29 further distinguish over Souissi by reciting that one or more communication networks are interrogated to determine available quality of service levels and cost of service information. Applicants find no such teaching in Souissi.

Johnston is cited by the Examiner for teaching that a user can select from one of several interrogated service providers. Johnson, however, is directed to routing calls within a network and making routing decisions based on the current rate. Johnson is limited to wireline switched networks that do not have the capability to provide different quality of service levels. Furthermore, there is no teaching that a user of a *wireless* device can make a selection based on different quality of service levels. Applicants' claim 4, for example, recites interrogating a plurality of communication networks to determine the available quality of service levels and the cost of service information for each communication network of the plurality. In Johnston, no interrogation takes place. The user terminal is presented with bids without any specific interrogation.

Haumont is cited by the Examiner for disclosing the use of a prepaid account. Applicants' claim 7, 12, 20 and 26, for example, recite that user credit availability information is stored on a smart card. The use of a smart card does not require a separate communication with the network to determine the user's credit. In this way, Applicants' wireless communication device can verify the user credit itself. In Haumont, a separate inquire is sent to the HLR (see FIGs. 2 and 3 of Haumont).

In view of the above, Applicants submit that the combination of Souissi with Olofsson, Immonen, Johnson and/or Haumont does not result in Applicants' invention as recited in claims 22 – 29.

AMENDMENT UNDER 37 C.F.R. 1.116 – EXPEDITED PROCEDURE

Serial Number: 10/000,051

Filing Date: November 1, 2001

Title: SYSTEM AND METHOD FOR PROVIDING COST OF QUALITY OF SERVICE LEVELS IN A WIRELESS COMMUNICATION DEVICE

Assignee: Intel Corporation

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Dkt: 884.550US1 (INTEL)

Conclusion

Applicants respectfully submit that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicants' attorney, Greg Gorrie at (480) 659-3314, or Applicants' below-named representative to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this day 13th of September 2005.

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